SEQUENCE LISTING

<110> TOOLGEN, INC.

<120> REGULATION OF PROKARYOTIC GENE
EXPRESSION WITH ZINC FINGER PROTEINS

<130> PCA41174-TGI

<150> US 60/532,362
<151> 2003-12-23

<160> 157

<170> FastSEQ for Windows Version 4.0

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1 5 10 15
Thr Arg His Gln Arg Ile His
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Phe Lys Cys Pro Val Cys Gly Lys Ala Phe Arg His Ser Ser Ser Leu
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Tyr Arg Cys Lys Tyr Cys Asp Arg Ser Phe Ser Ile Ser Ser Asn Leu
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Gln Arg His Val Arg Asn Ile His
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Tyr Thr Cys Ser Tyr Cys Gly Lys Ser Phe Thr Gln Ser Asn Thr Leu
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Lys Gln His Thr Arg Ile His
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Tyr Lys Cys Lys Gln Cys Gly Lys Ala Phe Gly Cys Pro Ser Asn Leu
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Arg Arg His Gly Arg Thr His
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Tyr Arg Cys Lys Tyr Cys Asp Arg Ser Phe Ser Ile Ser Ser Asn Leu
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Tyr Glu Cys His Asp Cys Gly Lys Ser Phe Arg Gln Ser Thr His Leu
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Thr Arg His Arg Arg Ile His
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Lys Thr His Thr Arg Thr His
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Tyr Glu Cys His Asp Cys Gly Lys Ser Phe Arg Gln Ser Thr His Leu

1 5 10 15
Thr Gln His Arg Arg Ile His
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<400> 29
Tyr Glu Cys His Asp Cys Gly Lys Ser Phe Arg Gln Ser Thr His Leu
1 5 10 15
Thr Arg His Arg Arg Ile His
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<210> 30
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Asn Val His Lys Arg Thr His
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<210> 31
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<400> 31
Tyr Glu Cys Asp His Cys Gly Lys Ala Phe Ser Val Ser Ser Asn Leu
1 5 10 15
Asn Val His Arg Arg Ile His
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<400> 32
Phe Glu Cys Lys Asp Cys Gly Lys Ala Phe Ile Gln Lys Ser Asn Leu
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<210> 33
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<213> Homo sapiens

<400> 33
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1 5 10 15
Arg Arg His Gly Arg Thr His
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<210> 34
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<400> 34
Tyr Glu Cys Asp His Cys Gly Lys Ala Phe Ser Val Ser Ser Asn Leu
1 5 10 15
Asn Val His Arg Arg Ile His
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<400> 35
Tyr Glu Cys His Asp Cys Gly Lys Ser Phe Arg Gln Ser Thr His Leu
1 5 10 15
Thr Arg His Arg Arg Ile His
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<400> 36
Tyr Lys Cys Pro Asp Cys Gly Lys Ser Phe Ser Gln Ser Ser Ser Leu
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<210> 37

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1 5 10 15
Lys Thr His Thr Arg Thr His
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<210> 38
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<210> 39
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Tyr Glu Cys His Asp Cys Gly Lys Ser Phe Arg Gln Ser Thr His Leu
1 5 10 15
Thr Arg His Arg Arg Ile His
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<210> 40
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<400> 40
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1 5 10 15
Ile Arg His Gln Arg Thr His
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<210> 41
<211> 23
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<400> 41
Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu
1 5 10 15
Lys Thr His Thr Arg Thr His

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<210> 42
<211> 23
<212> PRT
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Tyr Lys Cys Glu Glu Cys Gly Lys Ala Phe Thr Gln Ser Ser Asn Leu
1 5 10 15
Thr Lys His Lys Lys Ile His
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<210> 43
<211> 23
<212> PRT
<213> Homo sapiens

<400> 43
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1 5 10 15
Thr Arg His Arg Arg Ile His
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<210> 44
<211> 80
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated peptide

<400> 44
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Thr Arg His Gln Arg Ile His Thr Gly Glu Lys Pro Phe Lys Cys Pro
20 25 30
Val Cys Gly Lys Ala Phe Arg His Ser Ser Ser Leu Val Arg His Gln
35 40 45
Arg Thr His Thr Gly Glu Lys Pro Tyr Arg Cys Lys Tyr Cys Asp Arg
50 55 60
Ser Phe Ser Ile Ser Ser Asn Leu Gln Arg His Val Arg Asn Ile His
65 70 75 80

<210> 45
<211> 80
<212> PRT
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<220>
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Lys Gln His Thr Arg Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Lys
20 25 30
Gln Cys Gly Lys Ala Phe Gly Cys Pro Ser Asn Leu Arg Arg His Gly
35 40 45
Arg Thr His Thr Gly Glu Lys Pro Tyr Arg Cys Lys Tyr Cys Asp Arg
50 55 60
Ser Phe Ser Ile Ser Ser Asn Leu Gln Arg His Val Arg Asn Ile His
65 70 75 80

<210> 46
<211> 108
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated peptide

<400> 46
Tyr Arg Cys Lys Tyr Cys Asp Arg Ser Phe Ser Ile Ser Ser Asn Leu
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Gln Arg His Val Arg Asn Ile His Thr Gly Glu Lys Pro Phe Gln Cys
20 25 30
Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His
35 40 45
Thr Arg Thr His Thr Gly Glu Lys Pro Tyr Glu Cys His Asp Cys Gly
50 55 60
Lys Ser Phe Arg Gln Ser Thr His Leu Thr Arg His Arg Arg Ile His
65 70 75 80
Thr Gly Glu Lys Pro Tyr Glu Cys Asn Tyr Cys Gly Lys Thr Phe Ser
85 90 95
Val Ser Ser Thr Leu Ile Arg His Gln Arg Ile His
100 105

<210> 47
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated peptide

<400> 47
Tyr Glu Cys Asp His Cys Gly Lys Ser Phe Ser Gln Ser Ser His Leu
1 5 10 15
Asn Val His Lys Arg Thr His Thr Gly Glu Lys Pro Tyr Glu Cys Asp
20 25 30
His Cys Gly Lys Ala Phe Ser Val Ser Ser Asn Leu Asn Val His Arg
35 40 45
Arg Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Glu Glu Cys Gly Lys

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    50                  55                  60
Ala Phe Thr Gln Ser Ser Asn Leu Thr Lys His Lys Lys Ile His Thr
65                  70                  75                  80
Gly Glu Lys Pro Tyr Lys Cys Glu Glu Cys Gly Lys Ala Phe Thr Gln
                85                  90                  95
Ser Ser Asn Leu Thr Lys His Lys Lys Ile His
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<210> 48
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<220>
<223> Synthetically generated peptide

<400> 48

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Lys Thr His Thr Arg Thr His Thr Gly Glu Lys Pro Tyr Glu Cys Asp
            20                  25                  30
His Cys Gly Lys Ser Phe Ser Gln Ser Ser His Leu Asn Val His Lys
        35                  40                  45
Arg Thr His Thr Gly Glu Lys Pro Tyr Glu Cys His Asp Cys Gly Lys
    50                  55                  60
Ser Phe Arg Gln Ser Thr His Leu Thr Arg His Arg Arg Ile His Thr
65                  70                  75                  80
Gly Glu Lys Pro Tyr Lys Cys Pro Asp Cys Gly Lys Ser Phe Ser Gln
                85                  90                  95
Ser Ser Ser Leu Ile Arg His Gln Arg Thr His
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<210> 49
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<220>
<223> Synthetically generated peptide

<400> 49

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Thr Arg His Lys Arg Ile His Thr Gly Glu Lys Pro Tyr Glu Cys Asp
            20                  25                  30
His Cys Gly Lys Ser Phe Ser Gln Ser Ser His Leu Asn Val His Lys
        35                  40                  45
Arg Thr His Thr Gly Glu Lys Pro Tyr Glu Cys Asp His Cys Gly Lys
    50                  55                  60
Ala Phe Ser Val Ser Ser Asn Leu Asn Val His Arg Arg Ile His Thr
65                  70                  75                  80
Gly Glu Lys Pro Tyr Glu Cys Asp His Cys Gly Lys Ser Phe Ser Gln
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85 90 95
Ser Ser His Leu Asn Val His Lys Arg Thr His
100 105

<210> 50
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
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<400> 50
Tyr Glu Cys His Asp Cys Gly Lys Ser Phe Arg Gln Ser Thr His Leu
1 5 10 15
Thr Arg His Arg Arg Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Met
20 25 30
Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln
35 40 45
Arg Ile His Thr Gly Glu Lys Pro Tyr Glu Cys His Asp Cys Gly Lys
50 55 60
Ser Phe Arg Gln Ser Thr His Leu Thr Arg His Arg Arg Ile His Thr
65 70 75 80
Gly Glu Lys Pro Tyr Glu Cys His Asp Cys Gly Lys Ser Phe Arg Gln
85 90 95
Ser Thr His Leu Thr Arg His Arg Arg Ile His
100 105

<210> 51
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
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<400> 51
Phe Met Cys Thr Trp Ser Tyr Cys Gly Lys Arg Phe Thr Asp Arg Ser
1 5 10 15
Ala Leu Ala Arg His Lys Arg Thr His Thr Gly Glu Lys Pro Phe Gln
20 25 30
Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr
35 40 45
His Thr Arg Thr His Thr Gly Glu Lys Pro Tyr Glu Cys Asp His Cys
50 55 60
Gly Lys Ser Phe Ser Gln Ser Ser His Leu Asn Val His Lys Arg Thr
65 70 75 80
His Thr Gly Glu Lys Pro Tyr Glu Cys His Asp Cys Gly Lys Ser Phe
85 90 95
Arg Gln Ser Thr His Leu Thr Arg His Arg Arg Ile His
100 105

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<211> 107
<212> PRT
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<220>
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<400> 52
Tyr Glu Cys His Asp Cys Gly Lys Ser Phe Arg Gln Ser Thr His Leu
1 5 10 15
Thr Gln His Arg Arg Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Met
20 25 30
Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu Thr Arg His Gln
35 40 45
Arg Ile His Thr Gly Glu Lys Pro Tyr Glu Cys His Asp Cys Gly Lys
50 55 60
Ser Phe Arg Gln Ser Thr His Leu Thr Arg His Arg Arg Ile His Thr
65 70 75 80
Gly Glu Lys Pro Tyr Glu Cys His Asp Cys Gly Lys Ser Phe Arg Gln
85 90 95
Ser Thr His Leu Thr Arg His Arg Arg Ile His
100 105

<210> 53
<211> 107
<212> PRT
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<220>
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<400> 53
Tyr Glu Cys Asp His Cys Gly Lys Ser Phe Ser Gln Ser Ser His Leu
1 5 10 15
Asn Val His Lys Arg Thr His Thr Gly Glu Lys Pro Tyr Glu Cys Asp
20 25 30
His Cys Gly Lys Ala Phe Ser Val Ser Ser Asn Leu Asn Val His Arg
35 40 45
Arg Ile His Thr Gly Glu Lys Pro Phe Glu Cys Lys Asp Cys Gly Lys
50 55 60
Ala Phe Ile Gln Lys Ser Asn Leu Ile Arg His Gln Arg Thr His Thr
65 70 75 80
Gly Glu Lys Pro Tyr Lys Cys Lys Gln Cys Gly Lys Ala Phe Gly Cys
85 90 95
Pro Ser Asn Leu Arg Arg His Gly Arg Thr His
100 105

<210> 54
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
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1 5 10 15
Asn Val His Arg Arg Ile His Thr Gly Glu Lys Pro Tyr Glu Cys His
20 25 30
Asp Cys Gly Lys Ser Phe Arg Gln Ser Thr His Leu Thr Arg His Arg
35 40 45
Arg Ile His Thr Gly Glu Lys Pro Tyr Lys Cys Pro Asp Cys Gly Lys
50 55 60
Ser Phe Ser Gln Ser Ser Ser Leu Ile Arg His Gln Arg Thr His Thr
65 70 75 80
Gly Glu Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg
85 90 95
Ser Asp His Leu Lys Thr His Thr Arg Thr His
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<210> 55
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<212> PRT
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<220>
<223> Synthetically generated peptide

<400> 55
Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu
1 5 10 15
Lys Thr His Thr Arg Thr His Thr Gly Glu Lys Pro Tyr Glu Cys Asp
20 25 30
His Cys Gly Lys Ser Phe Ser Gln Ser Ser His Leu Asn Val His Lys
35 40 45
Arg Thr His Thr Gly Glu Lys Pro Tyr Glu Cys His Asp Cys Gly Lys
50 55 60
Ser Phe Arg Gln Ser Thr His Leu Thr Arg His Arg Arg Ile His Thr
65 70 75 80
Gly Glu Lys Pro Phe Glu Cys Lys Asp Cys Gly Lys Ala Phe Ile Gln
85 90 95
Lys Ser Asn Leu Ile Arg His Gln Arg Thr His
100 105

<210> 56
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<212> PRT
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Phe Met Cys Thr Trp Ser Tyr Cys Gly Lys Arg Phe Thr Asp Arg Ser
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Ala Leu Ala Arg His Lys Arg Thr His Thr Gly Glu Lys Pro Phe Gln
20 25 30
Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr
35 40 45
His Thr Arg Thr His Thr Gly Glu Lys Pro Tyr Lys Cys Glu Glu Cys
50 55 60
Gly Lys Ala Phe Thr Gln Ser Ser Asn Leu Thr Lys His Lys Lys Ile
65 70 75 80
His Thr Gly Glu Lys Pro Tyr Glu Cys His Asp Cys Gly Lys Ser Phe
85 90 95
Arg Gln Ser Thr His Leu Thr Arg His Arg Arg Ile His
100 105

<210> 57
<211> 13
<212> PRT
<213> Simian parainfluenza virus 5

<400> 57
Gly Lys Pro Ile Pro Asn Pro Leu Leu Gly Leu Asp Ser
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<210> 58
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<212> PRT
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<220>
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<400> 58
Glu Arg Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser
1 5 10 15
Arg Ser Asp Glu Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys
20 25 30
Pro Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His
35 40 45
Leu Thr Thr His Ile Arg Thr His Thr Gly Glu Lys Pro Phe Ala Cys
50 55 60
Asp Ile Cys Gly Arg Lys Phe Ala Arg Ser Asp Glu Arg Lys Arg His
65 70 75 80
Thr Lys Ile His Leu Arg Gln Lys Asp
85

<210> 59
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<220>
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<223> Xaa = phenylalanine or tyrosine

<221> VARIANT
<222> 2, 4-8, 10-12, 14-18, 20-21, 23-27
<223> Xaa = any amino acid

<221> VARIANT
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<223> Xaa = hydrophobic residue

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1 5 10 15 20
Xaa His Xaa Xaa Xaa Xaa Xaa His
21 25

<210> 60
<211> 23
<212> PRT
<213> Homo sapiens

<400> 60
Tyr Lys Cys Lys Gln Cys Gly Lys Ala Phe Gly Cys Pro Ser Asn Leu
1 5 10 15
Arg Arg His Gly Arg Thr His
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<210> 61
<211> 23
<212> PRT
<213> Homo sapiens

<400> 61
Tyr Gln Cys Asn Ile Cys Gly Lys Cys Phe Ser Cys Asn Ser Asn Leu
1 5 10 15
His Arg His Gln Arg Thr His
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<210> 62
<211> 23
<212> PRT
<213> Homo sapiens

<400> 62
Tyr Ser Cys Gly Ile Cys Gly Lys Ser Phe Ser Asp Ser Ser Ala Lys
1 5 10 15
Arg Arg His Cys Ile Leu His

20

<210> 63
<211> 23
<212> PRT
<213> Homo sapiens

<400> 63
Tyr Thr Cys Ser Asp Cys Gly Lys Ala Phe Arg Asp Lys Ser Cys Leu
1 5 10 15
Asn Arg His Arg Arg Thr His
20

<210> 64
<211> 23
<212> PRT
<213> Homo sapiens

<400> 64
Tyr Lys Cys Lys Glu Cys Gly Lys Ala Phe Asn His Ser Ser Asn Phe
1 5 10 15
Asn Lys His His Arg Ile His
20

<210> 65
<211> 23
<212> PRT
<213> Homo sapiens

<400> 65
Phe Lys Cys Pro Val Cys Gly Lys Ala Phe Arg His Ser Ser Ser Leu
1 5 10 15
Val Arg His Gln Arg Thr His
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<210> 66
<211> 24
<212> PRT
<213> Homo sapiens

<400> 66
Tyr Arg Cys Lys Tyr Cys Asp Arg Ser Phe Ser Ile Ser Ser Asn Leu
1 5 10 15
Gln Arg His Val Arg Asn Ile His
20

<210> 67
<211> 23
<212> PRT
<213> Homo sapiens

<400> 67

Tyr Glu Cys Asp His Cys Gly Lys Ala Phe Ser Ile Gly Ser Asn Leu
1 5 10 15
Asn Val His Arg Arg Ile His
20

<210> 68
<211> 23
<212> PRT
<213> Homo sapiens

<400> 68
Tyr Gly Cys His Leu Cys Gly Lys Ala Phe Ser Lys Ser Ser Asn Leu
1 5 10 15
Arg Arg His Glu Met Ile His
20

<210> 69
<211> 23
<212> PRT
<213> Homo sapiens

<400> 69
Tyr Lys Cys Lys Glu Cys Gly Gln Ala Phe Arg Gln Arg Ala His Leu
1 5 10 15
Ile Arg His His Lys Leu His
20

<210> 70
<211> 23
<212> PRT
<213> Homo sapiens

<400> 70
Tyr Lys Cys His Gln Cys Gly Lys Ala Phe Ile Gln Ser Phe Asn Leu
1 5 10 15
Arg Arg His Glu Arg Thr His
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<210> 71
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<212> PRT
<213> Homo sapiens

<400> 71
Phe Gln Cys Asn Gln Cys Gly Ala Ser Phe Thr Gln Lys Gly Asn Leu
1 5 10 15
Leu Arg His Ile Lys Leu His
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<213> Homo sapiens

<400> 72
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1 5 10 15
Arg Arg His Glu Lys Thr His
20

<210> 73
<211> 23
<212> PRT
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<400> 73
Tyr Lys Cys Gly Gln Cys Gly Lys Phe Tyr Ser Gln Val Ser His Leu
1 5 10 15
Thr Arg His Gln Lys Ile His
20

<210> 74
<211> 23
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<400> 74
Tyr Ala Cys His Leu Cys Gly Lys Ala Phe Thr Gln Cys Ser His Leu
1 5 10 15
Arg Arg His Glu Lys Thr His
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<210> 75
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<400> 75
Tyr Ala Cys His Leu Cys Ala Lys Ala Phe Ile Gln Cys Ser His Leu
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Arg Arg His Glu Lys Thr His
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<210> 76
<211> 23
<212> PRT
<213> Homo sapiens

<400> 76
Tyr Val Cys Arg Glu Cys Gly Arg Gly Phe Arg Gln His Ser His Leu
1 5 10 15
Val Arg His Lys Arg Thr His
20

<210> 77
<211> 23
<212> PRT
<213> Homo sapiens

<400> 77
Tyr Lys Cys Glu Glu Cys Gly Lys Ala Phe Arg Gln Ser Ser His Leu
1 5 10 15
Thr Thr His Lys Ile Ile His
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<210> 78
<211> 23
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<213> Homo sapiens

<400> 78
Tyr Glu Cys Asp His Cys Gly Lys Ser Phe Ser Gln Ser Ser His Leu
1 5 10 15
Asn Val His Lys Arg Thr His
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<210> 79
<211> 23
<212> PRT
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<400> 79
Tyr Met Cys Ser Glu Cys Gly Arg Gly Phe Ser Gln Lys Ser Asn Leu
1 5 10 15
Ile Ile His Gln Arg Thr His
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<210> 80
<211> 23
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<400> 80
Tyr Lys Cys Glu Glu Cys Gly Lys Ala Phe Thr Gln Ser Ser Asn Leu
1 5 10 15
Thr Lys His Lys Lys Ile His
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<210> 81
<211> 23
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<400> 81
Phe Glu Cys Lys Asp Cys Gly Lys Ala Phe Ile Gln Lys Ser Asn Leu
1 5 10 15

Ile Arg His Gln Arg Thr His
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<210> 82
<211> 23
<212> PRT
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<400> 82
Tyr Val Cys Arg Glu Cys Arg Arg Gly Phe Ser Gln Lys Ser Asn Leu
1 5 10 15
Ile Arg His Gln Arg Thr His
20

<210> 83
<211> 23
<212> PRT
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<400> 83
Tyr Glu Cys Glu Lys Cys Gly Lys Ala Phe Asn Gln Ser Ser Asn Leu
1 5 10 15
Thr Arg His Lys Lys Ser His
20

<210> 84
<211> 23
<212> PRT
<213> Homo sapiens

<400> 84
Tyr Glu Cys Asn Thr Cys Arg Lys Thr Phe Ser Gln Lys Ser Asn Leu
1 5 10 15
Ile Val His Gln Arg Thr His
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<210> 85
<211> 23
<212> PRT
<213> Homo sapiens

<400> 85
Tyr Val Cys Ser Lys Cys Gly Lys Ala Phe Thr Gln Ser Ser Asn Leu
1 5 10 15
Thr Val His Gln Lys Ile His
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<210> 86
<211> 23
<212> PRT
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<400> 86
Tyr Lys Cys Asp Glu Cys Gly Lys Asn Phe Thr Gln Ser Ser Asn Leu
1 5 10 15
Ile Val His Lys Arg Ile His
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<210> 87
<211> 23
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<400> 87
Tyr Glu Cys Asp Val Cys Gly Lys Thr Phe Thr Gln Lys Ser Asn Leu
1 5 10 15
Gly Val His Gln Arg Thr His
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<210> 88
<211> 23
<212> PRT
<213> Homo sapiens

<400> 88
Tyr Glu Cys Val Gln Cys Gly Lys Gly Phe Thr Gln Ser Ser Asn Leu
1 5 10 15
Ile Thr His Gln Arg Val His
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<210> 89
<211> 23
<212> PRT
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<400> 89
Tyr Lys Cys Pro Asp Cys Gly Lys Ser Phe Ser Gln Ser Ser Ser Leu
1 5 10 15
Ile Arg His Gln Arg Thr His
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<210> 90
<211> 23
<212> PRT
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<400> 90
Tyr Glu Cys Gln Asp Cys Gly Arg Ala Phe Asn Gln Asn Ser Ser Leu
1 5 10 15
Gly Arg His Lys Arg Thr His
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<210> 91
<211> 23

<212> PRT
<213> Homo sapiens

<400> 91
Tyr Glu Cys Asn Glu Cys Gly Lys Phe Phe Ser Gln Ser Ser Ser Leu
1 5 10 15
Ile Arg His Arg Arg Ser His
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<210> 92
<211> 23
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<400> 92
Tyr Lys Cys Glu Glu Cys Gly Lys Ala Phe Asn Gln Ser Ser Thr Leu
1 5 10 15
Thr Arg His Lys Ile Val His
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<210> 93
<211> 23
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<400> 93
Tyr Glu Cys Asn Glu Cys Gly Lys Ala Phe Ala Gln Asn Ser Thr Leu
1 5 10 15
Arg Val His Gln Arg Ile His
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<210> 94
<211> 23
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<400> 94
Tyr Glu Cys His Asp Cys Gly Lys Ser Phe Arg Gln Ser Thr His Leu
1 5 10 15
Thr Gln His Arg Arg Ile His
20

<210> 95
<211> 23
<212> PRT
<213> Homo sapiens

<400> 95
Tyr Glu Cys His Asp Cys Gly Lys Ser Phe Arg Gln Ser Thr His Leu
1 5 10 15
Thr Arg His Arg Arg Ile His
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<210> 96
<211> 22
<212> PRT
<213> Homo sapiens

<400> 96
His Lys Cys Leu Glu Cys Gly Lys Cys Phe Ser Gln Asn Thr His Leu
1 5 10 15
Thr Arg His Gln Arg Thr
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<210> 97
<211> 25
<212> PRT
<213> Homo sapiens

<400> 97
Tyr Val Cys Asp Val Glu Gly Cys Thr Trp Lys Phe Ala Arg Ser Asp
1 5 10 15
Glu Leu Asn Arg His Lys Lys Arg His
20 25

<210> 98
<211> 25
<212> PRT
<213> Homo sapiens

<400> 98
Tyr His Cys Asp Trp Asp Gly Cys Gly Trp Lys Phe Ala Arg Ser Asp
1 5 10 15
Glu Leu Thr Arg His Tyr Arg Lys His
20 25

<210> 99
<211> 25
<212> PRT
<213> Homo sapiens

<400> 99
Tyr Arg Cys Ser Trp Glu Gly Cys Glu Trp Arg Phe Ala Arg Ser Asp
1 5 10 15
Glu Leu Thr Arg His Phe Arg Lys His
20 25

<210> 100
<211> 25
<212> PRT
<213> Homo sapiens

<400> 100
Phe Ser Cys Ser Trp Lys Gly Cys Glu Arg Arg Phe Ala Arg Ser Asp

1 5 10 15
Glu Leu Ser Arg His Arg Arg Thr His
20 25

<210> 101
<211> 25
<212> PRT
<213> Homo sapiens

<400> 101
Phe Ala Cys Ser Trp Gln Asp Cys Asn Lys Lys Phe Ala Arg Ser Asp
1 5 10 15
Glu Leu Ala Arg His Tyr Arg Thr His
20 25

<210> 102
<211> 25
<212> PRT
<213> Homo sapiens

<400> 102
Tyr His Cys Asn Trp Asp Gly Cys Gly Trp Lys Phe Ala Arg Ser Asp
1 5 10 15
Glu Leu Thr Arg His Tyr Arg Lys His
20 25

<210> 103
<211> 24
<212> PRT
<213> Homo sapiens

<400> 103
Phe Leu Cys Gln Tyr Cys Ala Gln Arg Phe Gly Arg Lys Asp His Leu
1 5 10 15
Thr Arg His Met Lys Lys Ser His
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<210> 104
<211> 23
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<213> Homo sapiens

<400> 104
Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu
1 5 10 15
Lys Thr His Thr Arg Thr His
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<210> 105
<211> 23
<212> PRT
<213> Homo sapiens

<400> 105
Phe Ala Cys Glu Val Cys Gly Val Arg Phe Thr Arg Asn Asp Lys Leu
1 5 10 15
Lys Ile His Met Arg Lys His
20

<210> 106
<211> 25
<212> PRT
<213> Homo sapiens

<400> 106
Tyr Val Cys Asp Val Glu Gly Cys Thr Trp Lys Phe Ala Arg Ser Asp
1 5 10 15
Lys Leu Asn Arg His Lys Lys Arg His
20 25

<210> 107
<211> 23
<212> PRT
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<400> 107
Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu
1 5 10 15
Thr Arg His Gln Arg Ile His
20

<210> 108
<211> 23
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<213> Homo sapiens

<400> 108
Tyr Ile Cys Arg Lys Cys Gly Arg Gly Phe Ser Arg Lys Ser Asn Leu
1 5 10 15
Ile Arg His Gln Arg Thr His
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<210> 109
<211> 23
<212> PRT
<213> Homo sapiens

<400> 109
Tyr Leu Cys Ser Glu Cys Asp Lys Cys Phe Ser Arg Ser Thr Asn Leu
1 5 10 15
Ile Arg His Arg Arg Thr His
20

<210> 110

<211> 23
<212> PRT
<213> Homo sapiens

<400> 110
Tyr Glu Cys Lys Glu Cys Gly Lys Ala Phe Ser Ser Gly Ser Asn Phe
1 5 10 15
Thr Arg His Gln Arg Ile His
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<210> 111
<211> 23
<212> PRT
<213> Homo sapiens

<400> 111
Tyr Glu Cys Asp His Cys Gly Lys Ala Phe Ser Val Ser Ser Asn Leu
1 5 10 15
Asn Val His Arg Arg Ile His
20

<210> 112
<211> 23
<212> PRT
<213> Homo sapiens

<400> 112
Tyr Thr Cys Lys Gln Cys Gly Lys Ala Phe Ser Val Ser Ser Ser Leu
1 5 10 15
Arg Arg His Glu Thr Thr His
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<210> 113
<211> 23
<212> PRT
<213> Homo sapiens

<400> 113
Tyr Glu Cys Asn Tyr Cys Gly Lys Thr Phe Ser Val Ser Ser Thr Leu
1 5 10 15
Ile Arg His Gln Arg Ile His
20

<210> 114
<211> 23
<212> PRT
<213> Homo sapiens

<400> 114
Tyr Arg Cys Glu Glu Cys Gly Lys Ala Phe Arg Trp Pro Ser Asn Leu
1 5 10 15
Thr Arg His Lys Arg Ile His

20

<210> 115
<211> 6
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<220>
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<221> VARIANT
<222> 3
<223> Xaa = Glu or Gln

<221> VARIANT
<222> 4
<223> Xaa = Lys or Arg

<221> VARIANT
<222> 6
<223> Xaa = Tyr or Phe

<400> 115
Thr Gly Xaa Xaa Pro Xaa
1 5

<210> 116
<211> 28
<212> PRT
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<220>
<223> Synthetically generated peptide

<221> VARIANT
<222> 1, 13
<223> Xaa = phenylalanine or tyrosine

<221> VARIANT
<222> 2, 4-8, 10-14, 16, 20, 23-27
<223> Xaa = any amino acid

<221> VARIANT
<222> 19
<223> Xaa = a hydrophobic residue

<400> 116
Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Cys Xaa Ser Asn
1 5 10 15
Xaa Xaa Arg His Xaa Xaa Xaa Xaa Xaa His
20 25

<210> 117
<211> 267
<212> DNA
<213> Artificial Sequence

<220>
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<400> 117
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cgtataatgt gtggaattgt gagcggataa caatttcaca caggaaacag cgtccatggg 120
taagcctatc cctaaccctc tcctcggtct cgattctaca caagctatgg gtgctcctcc 180
aaaaaagaag agaaaggtag ctggatccac tagtaacggc cgccagtgtg ctggaattct 240
gcagatatcc atcacactgg cggccgc 267

<210> 118
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> mutated sequence

<400> 118
Phe Met Cys Thr Trp Ser Tyr Cys Gly Lys Arg Phe Thr Asp Arg Ser
1 5 10 15
Ala Leu Ala Arg His Lys Arg Thr His
20 25

<210> 119
<211> 23
<212> PRT
<213> Homo sapiens

<400> 119
Tyr Lys Cys Lys Gln Cys Gly Lys Ala Phe Gly Cys Pro Ser Asn Leu
1 5 10 15
Arg Arg His Gly Arg Thr His
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<210> 120
<211> 23
<212> PRT
<213> Homo sapiens

<400> 120
Tyr Thr Cys Ser Asp Cys Gly Lys Ala Phe Arg Asp Lys Ser Cys Leu
1 5 10 15
Asn Arg His Arg Arg Thr His
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<210> 121

<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> mutated sequence

<400> 121
Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Asp Ser Ser
1 5 10 15
Asn Leu Thr Arg His Ile Arg Ile His
20 25

<210> 122
<211> 23
<212> PRT
<213> Homo sapiens

<400> 122
Phe Lys Cys Pro Val Cys Gly Lys Ala Phe Arg His Ser Ser Ser Leu
1 5 10 15
Val Arg His Gln Arg Thr His
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<210> 123
<211> 24
<212> PRT
<213> Homo sapiens

<400> 123
Tyr Arg Cys Lys Tyr Cys Asp Arg Ser Phe Ser Ile Ser Ser Asn Leu
1 5 10 15
Gln Arg His Val Arg Asn Ile His
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<210> 124
<211> 23
<212> PRT
<213> Homo sapiens

<400> 124
Tyr Lys Cys His Gln Cys Gly Lys Ala Phe Ile Gln Ser Phe Asn Leu
1 5 10 15
Arg Arg His Glu Arg Thr His
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<210> 125
<211> 23
<212> PRT
<213> Drosophila

<400> 125

Tyr Thr Cys Ser Tyr Cys Gly Lys Ser Phe Thr Gln Ser Asn Thr Leu
1 5 10 15
Lys Gln His Thr Arg Ile His
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<210> 126
<211> 23
<212> PRT
<213> Homo sapiens

<400> 126
Tyr Glu Cys Asp His Cys Gly Lys Ser Phe Ser Gln Ser Ser His Leu
1 5 10 15
Asn Val His Lys Arg Thr His
20

<210> 127
<211> 23
<212> PRT
<213> Homo sapiens

<400> 127
Tyr Met Cys Ser Glu Cys Gly Arg Gly Phe Ser Gln Lys Ser Asn Leu
1 5 10 15
Ile Ile His Gln Arg Thr His
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<210> 128
<211> 23
<212> PRT
<213> Homo sapiens

<400> 128
Tyr Lys Cys Glu Glu Cys Gly Lys Ala Phe Thr Gln Ser Ser Asn Leu
1 5 10 15
Thr Lys His Lys Lys Ile His
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<210> 129
<211> 23
<212> PRT
<213> Homo sapiens

<400> 129
Phe Glu Cys Lys Asp Cys Gly Lys Ala Phe Ile Gln Lys Ser Asn Leu
1 5 10 15
Ile Arg His Gln Arg Thr His
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<210> 130
<211> 23
<212> PRT

<213> Homo sapiens

<400> 130
Tyr Val Cys Ser Lys Cys Gly Lys Ala Phe Thr Gln Ser Ser Asn Leu
1 5 10 15
Thr Val His Gln Lys Ile His
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<210> 131
<211> 23
<212> PRT
<213> Homo sapiens

<400> 131
Tyr Lys Cys Pro Asp Cys Gly Lys Ser Phe Ser Gln Ser Ser Ser Leu
1 5 10 15
Ile Arg His Gln Arg Thr His
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<210> 132
<211> 23
<212> PRT
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<400> 132
Tyr Glu Cys His Asp Cys Gly Lys Ser Phe Arg Gln Ser Thr His Leu
1 5 10 15
Thr Gln His Arg Arg Ile His
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<210> 133
<211> 23
<212> PRT
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<400> 133
Tyr Glu Cys His Asp Cys Gly Lys Ser Phe Arg Gln Ser Thr His Leu
1 5 10 15
Thr Arg His Arg Arg Ile His
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<210> 134
<211> 23
<212> PRT
<213> Homo sapiens

<400> 134
Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu
1 5 10 15
Lys Thr His Thr Arg Thr His
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<210> 135
<211> 25
<212> PRT
<213> Homo sapiens

<400> 135
Tyr Val Cys Asp Val Glu Gly Cys Thr Trp Lys Phe Ala Arg Ser Asp
1 5 10 15
Lys Leu Asn Arg His Lys Lys Arg His
20 25

<210> 136
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
<223> mutated sequence

<400> 136
Phe Ala Cys Pro Glu Cys Pro Lys Arg Phe Met Arg Ser Asp Asn Leu
1 5 10 15
Thr Gln His Ile Lys Thr His
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<210> 137
<211> 23
<212> PRT
<213> Homo sapiens

<400> 137
Tyr Lys Cys Met Glu Cys Gly Lys Ala Phe Asn Arg Arg Ser His Leu
1 5 10 15
Thr Arg His Gln Arg Ile His
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<210> 138
<211> 23
<212> PRT
<213> Homo sapiens

<400> 138
Tyr Ile Cys Arg Lys Cys Gly Arg Gly Phe Ser Arg Lys Ser Asn Leu
1 5 10 15
Ile Arg His Gln Arg Thr His
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<210> 139
<211> 23
<212> PRT
<213> Homo sapiens

<400> 139
Tyr Glu Cys Asp His Cys Gly Lys Ala Phe Ser Val Ser Ser Asn Leu
1 5 10 15
Asn Val His Arg Arg Ile His
20

<210> 140
<211> 23
<212> PRT
<213> Homo sapiens

<400> 140
Tyr Thr Cys Lys Gln Cys Gly Lys Ala Phe Ser Val Ser Ser Ser Leu
1 5 10 15
Arg Arg His Glu Thr Thr His
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<210> 141
<211> 23
<212> PRT
<213> Homo sapiens

<400> 141
Tyr Glu Cys Asn Tyr Cys Gly Lys Thr Phe Ser Val Ser Ser Thr Leu
1 5 10 15
Ile Arg His Gln Arg Ile His
20

<210> 142
<211> 23
<212> PRT
<213> Homo sapiens

<400> 142
Tyr Arg Cys Glu Glu Cys Gly Lys Ala Phe Arg Trp Pro Ser Asn Leu
1 5 10 15
Thr Arg His Lys Arg Ile His
20

<210> 143
<211> 12
<212> DNA
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<220>
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<400> 143
daadaaaath ga 12

<210> 144
<211> 13

<212> DNA
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<220>
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<221> misc_feature
<222> 10
<223> n = a,t,c or g

<400> 144
gyagrahgan ggk 13

<210> 145
<211> 12
<212> DNA
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<220>
<223> putative target sequence

<400> 145
hgaaathgag gt 12

<210> 146
<211> 12
<212> DNA
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<220>
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<400> 146
gragragggg ra 12

<210> 147
<211> 12
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<223> putative target sequence

<221> misc_feature
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<400> 147
grahganggg tc 12

<210> 148
<211> 12

<212> DNA
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<220>
<223> putative target sequence

<400> 148
gragragggh ga 12

<210> 149
<211> 12
<212> DNA
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<220>
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<400> 149
gavgaaaath ga 12

<210> 150
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<221> misc_feature
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<400> 150
ngggyagraa at 12

<210> 151
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<220>
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<221> misc_feature
<222> 10
<223> n = a,t,c or g

<400> 151
gaagrahgan ggk 13

<210> 152
<211> 12

<212> DNA
<213> Artificial Sequence

<220>
<223> putative target sequence

<221> misc_feature
<222> 7
<223> n = a,t,c or g

<400> 152
gradaanggg tc 12

<210> 153
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> binding sequence

<221> misc_feature
<222> 10
<223> n = a, t, c, or g

<400> 153
gaagrahgan gg 12

<210> 154
<211> 189
<212> PRT
<213> Escherichia coli

<400> 154

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Gly Val Arg Leu Leu Gln Val Leu Arg Asp Val Thr Asp Ile Glu Thr
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His Leu Val Met Ser Gln Ala Ala Arg Gln Thr Leu Ser Leu Glu Thr
        35                  40                  45
Asp Phe Ser Leu Arg Glu Val Gln Ala Leu Ala Asp Val Thr His Asp
    50                  55                  60
Ala Arg Asp Ile Ala Ala Ser Ile Ser Ser Gly Ser Phe Gln Thr Leu
65                  70                  75                  80
Gly Met Val Ile Leu Pro Cys Ser Ile Lys Thr Leu Ser Gly Ile Val
                85                  90                  95
His Ser Tyr Thr Asp Gly Leu Leu Thr Arg Ala Ala Asp Val Val Leu
            100                 105                 110
Lys Glu Arg Arg Pro Leu Val Leu Cys Val Arg Glu Thr Pro Leu His
        115                 120                 125
Leu Gly His Leu Arg Leu Met Thr Gln Ala Ala Glu Ile Gly Ala Val
    130                 135                 140
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Ile Met Pro Pro Val Pro Ala Phe Tyr His Arg Pro Gln Ser Leu Asp
145 150 155 160
Asp Val Ile Asn Gln Thr Val Asn Arg Val Leu Asp Gln Phe Ala Ile
165 170 175
Thr Leu Pro Glu Asp Leu Phe Ala Arg Trp Gln Gly Ala
180 185

<210> 155
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 155
ctggaaagaa ccggaagaga tgctg 25

<210> 156
<211> 25
<212> DNA
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<220>
<223> primer

<400> 156
tgaaacgact cattgtaggc atcag 25

<210> 157
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<212> DNA
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<220>
<223> target sequence

<221> misc_feature
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<223> n = a,t,c or g

<400> 157
gctgranggg ah 12